

Hoosic and Mohawk rivers, higher than since 1850: lakes Champlain, Schroon, George and Lucerne several feet above usual height; millions of dead fish found, supposed to be from the effects of Paris green washed from potato fields. Laredo, Tex., 21st, arroyos south of station much swollen and road bed washed away in many places; Rio Grand river unusually high for several days; heavy rains reported by traders from the interior of Mexico and small streams were much swollen. Davenport, Iowa, 19th, severe thunder-storm, flooding city and damaging crops. Charleston, S. C., 14th, heavy thunder-storm; streets flooded. Baltimore, Md., 16th, heavy rains; streets flooded. Philadelphia, 1st, 5:40 p. m., heavy thunder-storm; streets flooded. Albany, N. Y., 2nd, 11:43 to 11:53 a. m., severe thunder-storm; much damage by wind and water. South Pueblo, Cal., 24th, terrific flood SW. of station; great damage on the Greenhorn, Cucharas, Huerfano and Apache creeks; crops and houses washed away; two men drowned; also numbers of cattle. Mt. Solon, Va., 29th, heavy rain, damaging fences, washing cornfields badly. Beloit, Wis., 18th, heavy rain; damage to roads; washed away railroad culvert.

Drought.—Clear creek, Neb., 31st, has continued for three weeks, injuring corn and potatoes; no fall plowing done. Contoocookville, N. H., 15th, early potatoes injured by drought; wells and streams very low. Ephrata, Lancaster Co., Pa., 21st, many wells dry, great scarcity of water in some sections of the county. West Charlotte, Vt., 31st, drought has affected potato and apple crop severely; small fruits destroyed, except grapes. Corsicana, Tex., 31st, cotton cut short and stock ranges dried up by drought, cattle suffering for water. Creswell, Kan., 31st, ground very dry, everything suffering for rain. Coleman, Texas, 20th, no rain for a long time, ground very dry, grass in many places quite dead. Sloop Point, N. C., 2d, drought continues, crops in much danger, no rain since July 4th.

Hail.—Wadena, Minn., 3rd; Pike's Peak, 1st, 2nd, 17th; Burlington, Ia., 4th; Davenport, Ia., 4th, 13th; Port Huron, Mich., 5th; Detroit, Mich., 1st; Buffalo, N. Y., 9th; Cincinnati, O., 5th; Albany, N. Y., 2nd; Portland, Me., 18th; Newbury, Vt., 17th; Mt. Washington, 7th, 9th; Boston, 9th; Fort Rice, Dak., 7th; Summit Col., 2nd, 5th, 30th, 31st; Colebrook, Conn., 4th; Anna, Ill., 4th; Lyndon, Ill., 14th; St. Meinrad, Ind., 10th; Cresco, Ia., 27th; Nora Springs, Ia., 26th; near West Waterville, Me., 18th; near Wookstock, Md., 5th; Sandy Springs, Md., 1st; Springfield, Mass., 13th; Waltham, Mass., 4th, 9th; Cambridge, Mass., 9th; Watertown, Mass., 9th; Litchfield, Mich., 8th; Norfolk, Neb., 8th; Plattsmouth, Neb., 2nd; Auburn, N. H., 9th; Freehold, N. J., 4th; Palermo and North Volney, N. Y., 15th; Vernon Centre, N. Y., 9th; Tioga, Pa., 6th; Blooming Grove, Pa., 1st; Carlisle, Pa., 3rd; Greencastle, Pa., 17th; Clarks-ville, Tenn., 2nd; Lunenburg, Vt., 18th; Strafford, Vt., 7th, 17th; Ashland and Neillsville, Wis., 13th; Boise City, Idaho, 16th; Pioche, Nev., 16th; Cheyenne, 13th; Lead City, Dak., 2nd; Pembina, Dak., 6th, 26th; Fort Whipple, Va., 1st.

Rainy Days.—The number of days on which rain or snow has fallen varies as follows: New England, 8 to 20; Middle States, 7 to 20; South Atlantic States, 12 to 21; Gulf States, 11 to 22; Ohio valley and Tennessee, 9 to 18; Lower Lake region, 8 to 16; Upper Lake region, 8 to 14; Upper Mississippi valley, 11 to 13; Lower Missouri valley, 5 to 6; Northwest, 10 to 12; Rocky Mountains, 7 to 18; Western Plateau, 5 to 17; and Pacific coast, 0 to 4.

Cloudy Days.—For New England the number varies from 5 to 16; Middle States, 4 to 16; South Atlantic States, 6 to 14; Gulf States, 2 to 10; Ohio valley and Tennessee, 3 to 9; Lower Lake region, 3 to 15; Upper Lake region, 3 to 8; Upper Mississippi valley, 4 to 8; Lower Missouri valley, 2 to 7; Northwest, 3 to 5; Rocky Mountains, 3 to 8; Western Plateau, 2 to 8; and Pacific coast, 0 to 3.

Snow.—Summit, Col., 15th, snow fell on the surrounding summits and a trifle near the station.

Rain from a Cloudless Sky.—McKavett, Tex., 2:30 p. m., light rain for five minutes while not a cloud was visible in the zenith, but a small cumulo-stratus in the western horizon.

RELATIVE HUMIDITY.

The average percentage of relative humidity for the month ranges as follows: New England, 73 to 83; Middle Atlantic States, 70 to 83; South Atlantic States, 71 to 83; East Gulf States, 70 to 76; West Gulf States, 68 to 76; Lower Lake region, 66 to 73; Upper Lake region, 64 to 73; Ohio valley and Tennessee, 59 to 72; Upper Mississippi valley, 64 to 71; Lower Missouri valley, 65 to 71; Red River of the North valley, 57 to 75; Eastern Slope, from Dakota to interior of Texas, 52 to 65; Western Plateau, 25 to 40; California, 37 to 79. High stations report the following: Mt. Washington, 91; Pikes Peak, 55; Cheyenne, 59; Denver, 50; Santa Fe, 48; Virginia City, 45.

WINDS.

The prevailing winds at Signal Service stations are shown by arrows, flying with the wind, on chart No. II. West of the Mississippi the prevailing direction is southeasterly and southerly; along the Atlantic coast, southwesterly, and over the Ohio valley and Lake region, variable. The maximum velocities have already appeared under the description of storm-areas.

Total Movements of the Air.—The following are the largest monthly movements of the air as recorded at the Signal Service stations, viz.:—Mt. Washington, 16,408 miles; Cape Lookout, 11,556; Portsmouth, N. C., 9,266; Cape Hatteras, 9,013; San Francisco, 8,780; Dodge City, 8,664; Stockton, Texas, 8,418; Smithville, N. C., 7,644; Cape May, 7,334; Sandy Hook, 7,267; Cape Henry, 7,123; Pike's Peak, 6,157; The smallest are:—La Messilla, N. M., 936 miles; Knoxville, 1,209; Visalia, Cal., 1,343; Montgomery.

1,354; Uvalde, Texas, 1,453; Lynchburg, 1,806; Nashville, 2,153; Springfield, Mass., 2,290; Eagle Pass, Texas, 2,317; Augusta, 2,346; Danport, 2,438; Fredericksburg, Texas, 2,481; Griffin, Texas, 2,560.

VERIFICATIONS.

Indications.—The detailed comparison of the tri-daily weather indications with the telegraphic reports, for the succeeding twenty-four hours, shows a general percentage of omissions of 0.1 per cent, and of verifications, of 87.1 per cent. The percentage of verifications for the four elements have been: weather, 92.7; wind, 89.7; temperature, 85.1; barometer, 81.0. The percentages of verifications by geographical districts have been: New England, 84.4; Middle States, 87.6; South Atlantic States, 89.5; East Gulf States, 91.9; West Gulf States, 91.2; Lower Lake region, 86.7; Upper Lake region, 87.6; Tennessee and Ohio valley, 82.3; Upper Mississippi valley, 86.8; Lower Missouri valley, 83.2. Of the 3,716 predictions that have been made, 99, or 2.7 per cent are considered to have entirely failed; 124, or 3.3 per cent were one-fourth verified; 450, or 12.1 percent were half verified; 242, or 6.5 per cent were three-fourths verified; 2,801, or 75.4 per cent were fully verified, so far as can be judged from the weather maps.

Cautionary Signals.—During the month 39 Cautionary Signals were displayed; 30 or 77 per cent., were justified by subsequent hourly velocities of 25 miles or over at, or within, 100 miles of the station. Forty-five cases were reported, generally from scattered stations, of winds of 25 miles or over, when signals were not ordered.

NAVIGATION.

Stages of Water in Rivers.—In the table on the right-hand side of chart No. III are given the highest and lowest readings of the Signal Service river gauges during the month, with the dates of same. An examination of this table shows that the highest waters generally occurred on the 1st of the month, after which the rivers generally continued falling. Omaha, during month, river channel has been gradually changing towards Nebraska shore, and old channel filling with sand; on the 26th the river gauge was surrounded by a substantial sand bar. Pembina, Dak., 27th, navigation on Red river becoming difficult, owing to low water. Pittsburgh, 26th, navigation entirely suspended, river one foot and falling.

High Tides.—Mt. Desert, Me., 2nd, extremely high tides.

ATMOSPHERIC ELECTRICITY.

Thunder-storms.—1st, Md., Mass., N. J., N. Y., Pa., Mich., Can., Col., Conn., Ill., Ind., Kan., Ohio, Vt., Iowa, W. Va., Ga., S. C., R. I., Ky. 2nd, Mass., Va., R. I., Ala., Dak., Ga., N. Y., Can., Col., Conn., Fla., Ill., Ind., Iowa, Kan., Me., Mo., Neb., N. H., N. J., N. C., Ohio, Tenn., Tex., Vt., Ky., Minn., Ind. Ty. 3rd, Can., Col., Ind., Iowa, Kan., Me., Mass., Mich., Neb., N. Y., Ohio, Pa., Tex., Vt., Va., Wis., Ala., W. Va., Fla., Ga., S. C., N. C., Ky. 4th, N. J., N. Y., Va., Dak., Can., Conn., Fla., Ill., Ind., Iowa, Kan., Me., Mass., Mich., Mo., Neb., Ohio, Pa., Vt., Wis., W. Va., Ga., Minn., Tex., W. Ty. 5th, Md., N. J., Va., Mich., N. Y., Col., Ind., Me., N. C., Ohio, Pa., Vt., Wis., N. M., Tenn., S. C., Ga., N. H., Mon. 6th, Md., Mass., N. J., N. Y., Pa., Dak., Can., Col., Conn., Fla., N. H., Vt., Va., Utah, Ala., Mich., W. Va., W. Ty. 7th, N. Y., Col., Fla., Iowa, Mass., N. H., Tenn., Vt., Minn. 8th, N. Y., Mass., Dak., Can., Col., Conn., Fla., Ill., Ind., Iowa, Mich., Neb., N. H., N. J., Ohio, Pa., Vt., Wis., N. C. 9th, Md., Kan., N. Y., Dak., Neb., Col., Conn., Ill., Ind., Iowa, Me., Mass., Mo., N. H., Ohio, Vt., Fla., Ky. 10th, Md., Va., Col., Ill., Ind., Kan., Mich., Miss., N. J., Ohio, Tenn., N. M., Ga., Mo., Ind. Ty. 11th, Va., Ala., Ind. Ty., Col., Ill., Me., Mass., N. H., N. Y., N. C., Pa., Tex., Ohio, Tenn., Fla., R. I., Dak., Minn. 12th, Dak., Iowa, Tex., Ala., Mich., N. C., Minn., Wis. 13th, Ga., N. Y., Ala., Kan., Ill., Ind., Iowa, Me., Mich., Neb., S. C., Vt. Wis., Fla., Dak., W. Ty., Nev. 14th, Kan., Mich., Ga., Can., Fla., Ill., Ind., Iowa, Mo., Neb., N. Y., Ohio, S. C., Tenn., Ala., Nev. 15th, Va., Mich., N. Y., Ala., Col., Kan., Can., Ill., Ind., Iowa, Neb., N. C., Ohio, Pa., Vt., Ky., Idaho, Nev. 16th, N. J., Va., Mich., N. Y., Dak., Can., Conn., Fla., Ind., Mass., N. C., Ohio, Pa., Utah, Ala., W. Va., Tenn., Mont., Idaho, Nev. 17th, Va., N. Y., Dak., Conn., Ill., Iowa, Me., Mass., N. H., N. J., Pa., Vt., Wis., Utah, R. I., N. M. 18th, Va., N. Y., R. I., Ill., Ind., Ga., Me., Mass., Ohio, Vt., Wis., Ga., N. C., Tex. 19th, Va., Dak., Fla., Ill., Ind., Iowa, Miss., Neb., N. C., Ohio, Tenn., Ky. 20th, Ga., Pa., Va., Fla., Ill., Ind., Iowa, Me., Neb., N. C., Tenn. 21st, N. J., N. Y., Ala., Dak., Ga., Conn., Fla., Mo., Pa., Tenn., Va., Ill., N. C., Minn., Tex., Mont. 22nd, Minn., Wy. Ty., Fla., Miss., Utah, Iowa, N. C. 23rd, Ala., Dak., Cal., Ill., Iowa, Kan., Mass., Mich., N. J., Wis., N. M. 24th, Pa., Kan., Cal., Ill., Ind., Iowa, Ohio, N. Y. 25th, Md., N. J., R. I., Col., Conn., Ill., Ind., Iowa, Kan., Mass., Ohio, Tenn., Vt., N. M., Ind. Ty. 26th, Ala., Dak., Iowa, Kan., N. M., Tex., Tenn., Nev. 27th, Ga., Minn., Neb., Col., Iowa, Kan., N. C., Wis., Mich. 28th, Minn., Ala., Ind. Ty., Ind., Mich., N. Y., Ohio, Pa., Tenn., Tex., Mont., Idaho. 29th, Va., N. Y., Col., Fla., Me., Miss., Pa., S. C., Tex., Vt., Tenn., Ga., N. C. 30th, Ga., Dak., Fla., Me., Ohio, Tenn., N. C. 31st, Dak., Neb., Col., Fla., Ill., Ind., N. C., Ohio.

Auroras.—Pembina, Dak., 1st, 2nd; Escanaba, Mich., 6th; Newbury, Vt., 2nd; Mt. Washington, 3rd; Bangor, Me., 8th; Empire City, Kan., 21st; Springfield, Mass., 23rd; Clear Creek, Neb., 1st, 2nd, 7th, 18th, 24th, 27th.

Magnetic Phenomena.—Prof. G. Hinrichs, Iowa City, Ia., reports the average magnetic diurnal range in declination as 10.20 minutes.

Telegraphic Communication interfered with by Atmospheric Electricity.—Santa Fe, N. M., 5th, 7th, 10th, 11th, 17th, on wires; 23rd, 25th, instrument cut out; 26th, 27th, 28th, 29th, on wires. Boerne, Tex., 4th, 12th; Pembina, Dak., 12th, 27th, strongly felt on line; Grand Haven, Mich., 13th; Barnegat, N. J., 21st, 3 p. m. instruments cut out; Mt. Washington, N. H., 2nd, 2 p. m., severe on wires.